Dr. COLBATCH's Relation OF THE CURE Of a Person bitten by a VIPER, &c.

Books publiſhed by Dr. John Colbatch.

FOur Treatiſes of Phyſick and Chirurgery, *viz.* I. A Phyſico-medical Eſſay concerning Alkaly and Acid, proving Alkalies to be the Cauſe of all or moſt Diſtempers. II. Farther Conſiderations by way of Appendix to the ſaid Eſſay. III. *Novum Lumen Chirurgicum*, or a new Light of Chirurgery, being a Diſcovery of a ſafer and ſpeedier Cure of Wounds than hitherto practis'd. Illuſtrated with Experiments in *Flanders* in 1694. IV. A Vindication of the *Novum Lumen* from many unjuſt Aſperſions.

A Treatiſe of the Gout: Wherein both its Cauſe and Cure are demonſtrably made appear. To which are added, ſome Medicinal Obſervations concerning the Cure of *Fevers*, &c. by the means of *Acids*.

The Doctrine of Acids further aſſerted, in anſwer to Dr. *Tuthil* of *Dorcheſter*. With ſome things relating to the Hiſtory of Blood, and an Attempt to prove what Life is, and by what 'tis ſupported. With an Account of the Caſe of *Edmund Turner*, Eſq; *&c.*

A

RELATION

Of a very Sudden

AND

EXTRAORDINARY CURE

of a Person Bitten

BY A

VIPER,

By the Means of ACIDS.

Together with

Some REMARKS upon Dr. *Tuthill's* Vindication of his Objections against the DOCTRINE of ACIDS.

Wherein are contained several things in order to the further clearing of the said Doctrine.

C10.1

By JOHN COLBATCH, a Member of the College of Physicians.

LONDON, Printed for *Dan. Brown* without *Temple Bar*; *Abel Roper* at the Black-Boy, and *Tho. Leigh* at the Peacock in *Fleetstreet*. 1698.

To the unknown

Dr. *COLBATCH*,

Upon his several

Most ingenious Tracts in PHYSICK,

Especially that of

ALKALIES and ACIDS.

PHYSICK for Ages past has gropt her way
In Paths of Darkness, without any Ray
Of certain Truth, and still was going astray:
When COLBATCH rose, who with reviving Light
Dispell'd the Clouds, and chas'd away the Night.
By him th' important Secret is reveal'd,
Thro Fraud and Ignorance so long conceal'd:

No ſordid hopes of Gain e're ſway'd his Mind,
His only Aim's the Good of Human kind;
Who firſt with Pains and Labour dug the Oar,
Then freely gave us all the Golden Store.

Let Juggling *Quacks* grown envious of thy Name,
Combine together to obſcure thy Fame;
Such are the Myſt'ries which thou doſt unfold,
They'll write thy Name in Characters of Gold;
To Thee alone Mankind's indebted more,
Than t'all the Doctors that have gone before.

J. C. junior.

TO

TO THE READER.

I Have in all my Writings taken Truth for my Guide, as being the Soul of an Undertaking, and a Duty which ought to be ſtipulated by every Writer, both with God and Man; and this I may ſay, that I have not wanted courage to ſpeak it, nor means to diſcern it.

The oppoſition I have met with hath been almoſt inſupportable, Truth at its firſt appearance never wanting multitudes of Oppoſers; but (thanks to God) the Eyes of the World begin to be opened, and the new Doctrine I have advanced hath gained ſo much ground, that few Authors

in their own life time, have ſcarce ſeen the like. This unwonted and unexpected Encouragement that I have met with, hath filled me with ſuch a ſenſe of Gratitude, that at preſent I am not able to expreſs; neither can I better manifeſt it, than by proſecuting the Work I have begun, with all the diligence and induſtry that my Nature is capable of bearing, and this I do oblige my ſelf to do.

Reaſon is the true Touchſtone by which we ought to examine every thing; and according as any thing doth agree or diſagree with it, ſo we ought either to embrace or reject it. I remember that that Prodigy of Nature, the learned Mrs. Ann Baynard, *did once, in my hearing, ſay,* That Reaſon was that eternal Standard, which God Almighty, as a Ray of his own Image, has impreſſed on Man, to the election or diſlike of what may hurt or ſuccour him; and where this is rais'd and im-

improv'd, makes him an Angel, but where ſunk and depreſs'd, a groveling Brute.

I do proteſt I have never yet advanced any thing before I had weighed it in the Balance of the beſt Reaſon that God has given me; and for fear leſt Reaſon alone ſhould deceive me, and thereby ſuffer me to impoſe upon the World, I have always joined experience to it; ſo that both being combined together, I could not well be deceived my ſelf, nor lead others into errors. And I am apt to believe, that if People would but lay aſide their Prejudices, and conſult their Reaſons, I ſhould not have one Enemy left. But to my no ſmall grief, I have heard ſome Phyſicians of no ordinary reputation, poſitively declare, That Authority, and not Reaſon, was what they depended upon. Of theſe men I have little hopes; but ſince they won't hearken to my Reaſons, let them but inquire into the

ſucceſs

ſucceſs of my Practice; and if they find, that by the means of Acids *I am able to cure thoſe Diſtempers, which are not to be cured by* Alkalies, *I hope it will at laſt cure them of their Scepticiſm.*

From one Generation of Phyſicians to another it has conſtantly been handed down, that the Gout *was a Diſtemper not to be cured; and in ſpight of all the Noiſe that the laſt Age has made about experimental Philoſophy, no man ever went out of the common Road to try whether this Poſition were true or falſe. But now it doth evidently appear, that the* Gout *is not ſuch a Fury, but that it may with eaſe be overcome by the means of proper and powerful* Acids; *the truth of which there is ſcarce any part of* England, *but there is one or other that can experimentally atteſt. Now if it doth evidently appear that my Predeceſſors have been ſo notoriouſly ignorant, as to the Cauſe and Cure of ſo common a Diſtem-*

Diſtemper, it is not unreaſonable to believe that they have been ſo in other Caſes, nay it is moſt certain they have been ſo: and there are a great many honeſt Gentlemen of the Faculty who are not aſhamed to acknowledg it, and that not only in words, but by the alteration of their Method of Practice: tho there are another ſort, who of late have with good ſucceſs made uſe of Acids *plentifully, and at the ſame time have given me all manner of opprobrious Language: but I thank God I am out of the reach of their malice, and though they perſiſt in their ingratitude, yet I ſhall continue my endeavours to ſerve them to the utmoſt of my power.*

I have the ſame juſt Apology to make at this time as formerly, viz. *That being in a continual hurry of Buſineſs, I have not been able to perform things with that niceneſs and exactneſs that I ſhould otherwiſe have done; and I know there are a great many who will read theſe Pa-*

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pers with no other design than to find faults: but the Barks of these Criticks will never disturb me, because I have undertaken nothing but with a real design to serve Mankind; and I doubt not, but in spight of all the imperfections that are to be met with, there are a great many Candid, Ingenious men, who will make as favourable a construction of this, as they have done of my former Undertakings. And if men of Candor are but pleased, I care not what the envious Criticks say.

Villers-street York-Buildings, May 1. 1698.

Jo. Colbatch.

A Relation *of a very ſudden and extraordinary* Cure *of a Perſon* Bitten *by a* Viper, *by the means of* Acids.

ON *Saturday*, *March* the twenty ſixth, one Mr. *Stringer*, a *Chymiſt* in *Villers-ſtreet* in *York-buildings*, was ſeeing a *Collection* of *Rarities*, which were expoſed to publick view in *Stocks-market*; amongſt other things there was a *live Viper* kept in a Glaſs of Bran. The *perſon* who ſhew'd the *Collection*, upon ſome inducement or other, took the *Viper* out of the Glaſs to ſhew Mr. *Stringer*; but handling him more rudely than he ought to have done, enraged the *Viper*, and he *bit*

 him

him by the *Finger*; and from the place into which the *Tooth* entred, there iſſued forth a few drops of *Blood*: it was juſt above the *upper joynt* of the *fore Finger* where the *Tooth* entred.

At firſt the man, whoſe name is *Philipſon*, made nothing of it, but in a little time his *Finger* ſwelled and pained him exceedingly; upon which by the direction of ſomebody, a *Hot Iron* firſt, and afterwards *Venice Treacle* and *Oyl* of *Vipers* were applied to the part; but the *ſymptoms* not abating by theſe *methods*, Mr. *Stringer* adviſed him to ſeek out for further help: he perceiving that Mr. *Stringer* had ſome knowledg of the matter, deſired his aſſiſtance; upon which Mr. *Stringer* ſent to Mr. *Francis Molt* a *Chymiſt*, for ſome *Salt* of *Vipers*; but Mr. *Molt* not being at home, and that not being to be had, he ſent to another place for ſome

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dulcified Spirit of *Niter*, a large quantity of which he gave him in *Claret*, and with the reſt he *embrocated* his *Finger* and *Hand*, which at the preſent afforded him ſome relief, he being then in *extream Agonies*, and had ſuch a *trembling* in his *Hand* and *Arm* as is ſcarce *conceivable*. But in a little time the *ſymptoms* returning, the *dulcified Spirit* of *Niter* not being powerful enough to overcome ſo *ſubtile* a *Poiſon*, Mr. *Stringer* again preſſed him to ſeek for further help: upon which he told Mr. *Stringer* that he had a *Brother* in *Pal Mal*, who was an *Apothecary*, to whom he would apply himſelf fot aſſiſtance and advice: ſo to his *Brother* he went in a Coach, Mr. *Stringer* accompanying him.

When he came to his *Brothers*, the *ſymptoms* were ſo *aggravated*, that his *Brother* was under very great concern for him, and propoſed ſending for

Dr. *Sloane* and ſeveral others; but Mr. *Stringer* mentioning me, he readily aſſented to take my advice in the matter; upon which they got into the Coach, and drove to Mr. *Stringer's* Houſe, by which time the man was grown ſo weak that he could ſcarce ſtand. After they had gotten him into a Room, they ſent for me; but I not being at home, Mr. *Stringer* ſent for Mr. *Alexander Small* a *Surgeon* in *New Round Court*, a *young Man* of great *Honeſty* and *Induſtry*, and one whom I frequently imploy.

Mr. *Small* having never ſeen any thing of the like nature before, was at a ſtand what to do; he firſt of all thought of *ſcarifying* the *Finger*, but when he conſidered that the *Tumor* had extended it ſelf even to his Shoulder, in which part he had very *acute Pains*, and from the other *ſymptoms* that attended him, concluding the *Poiſon* had dilated it ſelf through

through the whole *maſs* of *Blood*, he altered his firſt reſolution, and inſtead of *ſcarification* made uſe of the following *method*. Before I give an account of which, I ſhall take notice of his *circumſtances*, as they were related to me, by Mr. *Small*, Mr. *Stringer*, and Mr. *Philipſon Apothecary*, the man's *Brother*. His *Hand* and *Arm*, as is before related, were extreamly *ſwelled* and *inflamed*, and full of *pain*; but the *pain* in his *Finger* where the *Bite* was, and that in his *Shoulder* did much exceed the *pain* in other parts; he had a great *Vertigo* or *Giddineſs*, a *Deliquium Animi* or *Faintneſs*, even to ſuch a degree, that he could ſcarce ſit without being held in the Chair; an extraordinary and violent *Strangury* alſo attending him, with *cold ſweats*, and great *diſorders* in his *Stomach* and *Bowels*, and his *Countenance* turned extreamly *Yellow*, and *ſtretched* out, almoſt, as *dead*.

Mr. *Small* and Mr. *Stringer* provided a good quantity of my *Elixir Vitrioli*, an account of which and its preparation may be met with in the *ſecond Edition* of my *Eſſay* of *Alkaly* and *Acid*. With this *Elixir* Mr. *Small embrocated* the *Fingers*, *Hand* and *Wriſt* for near *half* an *hour* together, and two or three times in the ſaid ſpace he *dipped* the end of the *bitten Finger* in plain *Oyl* of *Vitriol*: in the interim he gave him *two* or *three Drams* or more of the *Elixir Vitrioli* inwardly in a large quantity of water, when the man finding a great propenſity to *vomit*, Mr. *Small* adviſed him to put his *Fingir* in his *Throat* and help it forwards; after he had *vomited* plentifully, Mr. *Small* plied him afreſh with the *Elixir Vitrioli* in water: the quantity he took after his *vomiting* Mr. *Small* gueſſeth to be near, if not quite, *half* an *ounce*.

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In leſs than half an *hour* after Mr. *Small* came to him, all the *ſymptoms*, except the *ſwelling* of his *Hand* and *Arm*, and that was ſenſibly leſſened, were totally vaniſhed, and he able to walk from *York-buildings* to the *Grecian Coffee-houſe* in *Eſſex-buildings*, to find me out to deſire my further directions in the matter. Now the *violence* of the *ſymptoms* being abated and gone, I preſcribed him more *temperate Acids* than thoſe he had before taken, and that had been applied to the affected parts.

℞ *Fol. Rutæ Contuſ. manip. Duos*
Rad. Angelicæ Hiſpan. pul. Unc. Duas
Micar. Panis Albi Unc. quatuor
Aceti Acerrimi lib. duas
coquantur ad debitam conſiſtentiam, cui adde
Ol. Scorpion. Unc. duas. M. f. Cataplaſma.

℞ *Elix. Vitrioli Dracm. Duas*
Sp. Vini Rect. Unc. Duas. m. f.
Mixtura.

℞ *Fol. Rutæ Manip. Unum*
Rad. Serpentariæ Virgin. Dracm.
ſex.
Angel. Hiſpan. Unc. Unam
Petaſitidis Unc. Unam ſemis
Vini Albi, Aceti Acerrimi, ana
lib. Unam
Infunde calide per horam & coletur,
Sig. the Infuſion.

℞ *Ol. Vitrioli Dul. per digeſt. fact.*
Unc. ſemis,
Sig. Dulcified Oyl of
Vitriol.

I ordered the man to go to his *Lodging*, which was in *Black Fryars*; and becauſe his *Brother* could not get the forementioned things ready under

der *three* or *four hours*, I adviſed him as ſoon as he came home, to take *three ounces* of *Treacle Water*, (in my opinion one of the beſt *Medicines* in the *London Diſpenſatory*) and as ſoon as he had taken it, to go to *Bed*.

I ordered that the *Cataplaſm* ſhould be applied warm to the *Hand* and *Arm* as far as the *ſwelling* reacht, every *ſix hours*; and before the *application* of the *Cataplaſm*, that the parts ſhould be well *embrocated* with the *Mixture*.

Of the *Infuſion* he took *four Ounces* every *four hours*.

Whenever he was *thirſty*, I adviſed him to take *twenty Drops* of the *Dulcified Oyl* of *Vitriol* in a *draught* of *White Wine* and *Water*.

One *Sunday morning* about *eleven* a *Clock* I went to viſit him, and when I came to his Lodgings, I found Dr. *Sloan* with him; the Doctor ſaid the *method* that had been uſed was *new*, but

but that the Man was in a very good condition, and out of all danger. He had *ſlept* well the whole *night*, and was not in the leaſt *Feveriſh*, neither had he the leaſt *diſorder* upon him, only a very ſmall *pain* in his *Finger*, the *ſwelling* of his *Hand* and *Arm* being greatly abated.

I ordered the continuing of his former *method*, the which I had no reaſon to vary. But Dr. *Sloan* propoſed, that if his *Infuſion* ſhould make him *puke*, as it once had done, then in the room of it, he ſhould at the ſame intervals take *half* a *dram* of *Virginian Snake Root* in pouder, drinking afterwards *two* or *three ounces* of *Treacle-water*, *ſweetned* with *Syrup* of *Gilliflowers*; the which I conſented to, it no way thwarting the *Methods* that had before been taken.

At night I viſited him again, and then found him as *brisk* and *well* as if nothing had ailed him; the *Infuſi-*

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on had not *diſagreed* with him, and therefore he took not the *Powder* of *Snake Root*; but I mixed the *Treacle-water* and *Syrup* of *Gilliflowers* with the remaining part of the *Infuſion*, and ordered him to take *four ounces* of it *morning* and *evening* only, ſo long as it laſted.

The next day I viſited him again, when I found him up and eating his Dinner very heartily: I then ordered him to continue the uſe of the *Cataplaſm* ſo long as he found the leaſt *ſwelling* in any part, and then diſmiſſed him from my care, there not being any more need of my further attendance.

A ſmall *ſwelling* of his *Finger* continued for ſome time after, but without *trouble* or *pain*.

I believe I may without vanity ſay, that conſidering the *ſymptoms* that attended this man, which were as ſevere as poſſible, and he ſurvive it, there has not been a more *extraor-*

traordinary Cure wrought, nor ſuch *ſymptoms*, raiſed upon ſuch an occaſion, ever taken off in ſo ſhort a ſpace.

Now did the *poiſon* of *Vipers* conſiſt in a *Volatil Acid*, as ſome would make us believe, how is it poſſible for any one to conceive, that ever theſe *dreadful Symptoms* could be ſo ſoon taken off, by giving more *Acids*, and that in ſo *extravagant* a *quantity* as they were at firſt given by Mr. *Stringer* and Mr. *Small*? Nay had the *Poyſon* been an *Acid*, it is very reaſonable to believe, that the more *Acids* they had given him, the more his *Symptoms* would have been *aggravated*. Whereas, on the contrary, it plainly appears, that by the repeated large quantities that they gave him, the *Symptoms* were ſo ſoon abated, that it is almoſt paſt belief.

I cannot but obſerve, that in the ſtrange relation that Dr. *Stubbs* gives of

of the *ſevere Symptoms* that attended the man at *Warwick* that was bitten with an *Adder*, the only thing that put him out of *danger* of loſing his life, was the *Mixtura ſimplex* that was given him, which is a moſt *noble Acid*; but this man had not the *Mixtura ſimplex* given him in ſuch quantities, or in any *proportion* to the *Acids* that Mr. *Philipſon* took; neither was his *Cure* either ſo *expeditious* or ſo eaſie, as may be ſeen in Dr. *Stubbs*'s relation of that matter.

The *hot Iron* was equally uſeleſs in this, as in that Caſe; and I am apt to believe doth never do any ſervice at all, unleſs applied at the very inſtant of time, that the *bite* is received.

Mr. *Philipſon* did *ſuck* his *Finger* as ſoon as he was *bit*, and to that a certain *Phyſitian* attributes a great deal, and ſays it help'd to *expedite* the *Cure*. Whereas there are ſeveral *Authors* of *undoubted credit*, who have given *re-*

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lations of persons that have *died* by so doing. And if this man had *sucked* out any great quantity of the *Poison* with his mouth, how came the whole *Hand* and *Arm* to be so immediately *affected* in so *dreadful* a *manner*?

Lemery in his *Course* of *Chymistry* does confess, that the *Viper* doth abound more with *Volatile* (*Alkalious*) *Salts*, than most other *Creatures*, and assigns a very good reason for it, *viz.* from the extraordinary *closeness* of the *Cutaneous Pores*, by which means they do not *perspire* so freely as other *Creatures* do. Nay he confesseth, that their *Poison* consisteth in the *emission* of a very great quantity of *Volatile Salts*, at the time of their being *enraged* or *angred*; but then to *square* himself with the *vulgar Opinion*, he tells us, that these *Volatile Alkalious Salts* are instantaneously, at the time of their *emission*, during the time of the *Vi-*

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pers ſhort rage, turned into *Acids* of the moſt *volatile nature*: this is ſuch *Jargon* that nothing can be imagined like it. The *tranſmutation* of *Metals* (even to thoſe who are the greateſt enemies to it) is a mere jeſt to it.

If we look into *Moſes Charras* his account of the *German* that was bit at his houſe, after all the *pother* that he makes about his *Volatile Salt* of *Vipers*, yet the *Cure* of that man was not performed without a great deal of *hazard* and *trouble*, and the *intermixture* of a *great many* other *Medicines*, beſides that of the *Volatile Salt*, and thoſe even *Acids* too, as *Treacle-water*, and *ſlices* of *Citrons* with Sugar; but theſe *Acids* could not ſo effectually *operate* as otherwiſe, it's probable, they would have done, by reaſon of their being *obtunded* by the *Volatile Salt*, that was ſo *frequently* given him. But *Hoffman* in his *Clavis Pharmaceut. Schroderi*, *pag.* 45, & 46. (as I have elſe-

elſewhere obſerved) doth wholly *attribute* the *Cure* of this man to the *Juice* of *Citrons*, after all other things had proved *ineffectual*; and *ridicules Charras* for feigning the *Poiſon* to be an *Acid*: For if this were ſo (ſays *Hoffman*) how could the *juice* of *Citrons* (which is an *Acid*) afford the *Patient* any *relief*?

I ſhall conclude this *ſubject* with this one *obſervation*, *viz.* That *Phyſicians* get more *reputation* by keeping their *Patients* a long time in hand, and in *continual danger* of their *lives*, than by *quick* and *expeditious Cures*. As for inſtance:

One *Phyſician* has a *Patient ſick* of a *Fever*; he takes ſuch a *method* that his *Patient* lies a *month* in *continual danger* and *hazard*, but at laſt *recovers* and gets abroad; he then *proclaims* to every body the *miraculouſneſs* of the *Recovery* and the *Danger* he was in; upon which enquiry is made who

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was the *Physician?* he immediately replies, the *Famous Doctor* such a one; and if he be a *Person* of any *Note*, the *Physician's* work is done.

Another *Physician* has a Patient that has the very same *Fever*; this *Physician* takes care to *obviate* all *symptoms*, and his Patient is abroad in eight or ten days, and perhaps has never been in the least *hazard* of his *Life*. He (instead of *magnifying* the *skill* of his *Physician*) tells his Friends, my *Physician* tells me I have had a *Fever*, such as my Neighbour such a one had, but I believe he is mistaken, mine could be no more than a *Cold*, which would have gone off had I done nothing at all; and this is frequently the *reward* that *honest men* meet with: and I doubt not but the same *reflections* will be made upon Mr. *Philipson's Cure*, *viz.* that he would have been well in the same

time, had nothing at all been done to him.

Several Phyſicians have publickly ſaid, that a prick with a Needle or the point of a Lancet in ſome Parts would occaſion as dreadful ſympoms as this man had. Suppoſing this to be true, I believe every body will allow that the taking off of ſuch Symptoms in ſo ſmall a time, let the occaſion of them be what it will, is not ordinarily ſeen; and Dr. *G.* with the prick of a Lancet only, was hurried away into another World, who yet was as likely a man to make the forementioned Objection, to undervalue any thing done either by me, or upon the Baſis of my Hypotheſis, as any one now living.

I will not pretend to juſtifie Mr. *Stringers* conduct in a great many things; but he being a perſon greatly concerned in the firſt and moſt material part of what was done for

Mr.

Mr. *Philipſon* in order to his Cure, I could not in juſtice but make uſe of his Name as he deſerved. But for Mr. *Small* the *Surgeon*, he is a man of an unblemiſhed *Reputation*, and as hopeful a Young Man as any of his *Profeſſion*, the *Teſtimony* of whom only were ſufficient upon ſuch an *Occaſion*; but the *Teſtimonies* of Mr. *Philipſon* the *Apothecary* and the man himſelf being joined to his, makes the matter of fact unqueſtionable.

Remarks upon Dr. *Tuthill*'s Vindication of his Objections againſt my Hypotheſis.

Worthy Sir,

YOU are the only fair *Antagoniſt* that ever I have had to do with, and therefore I ought to treat you with all the *tenderneſs* and *reſpect* imaginable. You cannot but be ſenſible that I walk in an unbeaten path, and therefore if I now and then am out of my way, I am the more excuſable. It's true, ſome few other *Phyſicians* have heretofore uſed *Acids* in the Cure of ſeveral Diſtempers, and the friendly correſpondence I have had with ſome of them has

has been of great use to me; but the assistance I have had from them as to the *establishing* of my *Principles*, has been very inconsiderable. If I have made any *false steps*, neither of them are obliged to answer for me, and if I have made any good ones, (which I cannot forbear flattering my self that I have) I am sure it is owing to my own *labour* and *industry*; and altho I were not bred up at the *University*, yet I have taken as much true pains to inform my self in all the *Parts* of *Physick*, as perhaps any man ever did.

Let an *Hypothesis* be laid down with all the *caution* and *care* in the World, and established upon never so certain a *Foundation*, yet there will still be some room left for men to object; and he that will spend his time in answering all *trifling Objections*, that may and will be raised against a thing that is new, must lead

but an uneaſie life. But, Sir, I do not mention this in relation to you, what *Objections* you have raiſed have ſeeming weight in them, and therefore I have given my ſelf the trouble to clear my ſelf of them as well as I can.

I no where tell you, that I have ſaid all that is to be ſaid on the behalf of my *New Hypotheſis*, that requiring ſeveral years to perform. But I have already ſaid ſo much, that I believe I may boldly ſay, it is the beſt and cleareſt *Hypotheſis* in *Phyſick* now extant, and upon the *foundation* of which a man may with greater *certainty* attempt the *Cure* of more *Diſeaſes*, than upon any other that has yet been made publick.

The preſent buſineſs of my *Profeſſion*, together with another Piece of Work I am ingaged in, *viz.* A General *Treatiſe* of *Fevers*, does ſo take up my time, that I cannot make

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any very large Remarks upon your further *Objections*; and were it not that I am willing to let the World ſee, that I have a greater eſteem for you, than for thoſe *Scoundrels* that have heretofore appeared in *Print* againſt me, for the preſent I ſhould have been ſilent. For I muſt aſſure you, that I do not think my *Hypotheſis* at all *ſhaken* by what you have now ſaid, there being little or nothing more than what was contained in your firſt *Objections*. However I ſhall tranſcribe your freſh *Objections* in the order I find them, and make my *Remarks* in the ſame manner.

Reply. *If you pleaſe to compare the* Alkaline Spirit *that you* extracted *from the* Conſumptive *Man's* Blood, *with that which the* healthy Blood *afforded, you'l find no great diſproportion, eſpecially if you conſider the* Caput Mortuum *of the* ſound Blood *For you ſay that it being broken in*

ſmall Atoms, *each* Atom *appeared to be ſo many little* Bodies *of* Fire *in your* Microſcope. *That there is not the leaſt* ſpark *of* Fire *in the* Blood, *I ſhall endeavour to prove anon; wherefore 'tis not irrational to ſuppoſe that thoſe* lucid Atoms *were of the* Family *of* Salts: *And if* Salts, *then* Alkaline, *according to the* Rules *of your own* Hypotheſis. *But then* (*you reply*) *the* Tabid Blood *would have yielded much more* Alkaly, *had not the great quantity of* Luxuriant Alkaly *been thrown upon the* Lungs. *Methinks this looks a little ſtrange. For if you remember the* Conſumptive Perſon *did* ſweat *prodigiouſly. Now you make* Sweat *to be nothing but an* excrementitious Alkaly. *If this* Alkaly *then was carryed off in ſuch quantities, it could not well abound ſo much in the* Lungs.

Remark. This *Objection* or *Reply* to my *Anſwer* is a tolerable good one, and not without ſome ſeeming weight;

weight; but is what I am eaſily able to clear my ſelf from. For,

Firſt, I my ſelf have before taken notice of the ſmall *diſproportion* between the two peoples *Blood*, and have aſſigned one very good reaſon for it; but according to your wonted Candor, you have furniſhed me with a *ſecond*, and that is the *profuſeneſs* of the *Sweats*. Now if after theſe two great diſcharges of *Excrementitious Alkaly* by *ſweating* and *ſpitting*, the *Blood* at laſt abounds with any quantity of *Alkaly* more than that of a *ſound perſon*, it is, I think, very reaſonable to ſuppoſe, that the *Blood's* being at firſt overcharged with *Alkaly* was the cauſe of the Diſtemper; and in very many Conſumptive Caſes it is uſual for the Patient to ſpit up perfect *Chalk*, and that in great quantities: Now if the *Blood* were overcharged with *Acids* in *Conſumptions*, the whole Maſs paſſing ſo fre-

frequently through the *Lungs*, could not fail of being ſweetned by this *Chalky Alkaly*. But on the contrary, I think it very plain, that the *Tone* of the *Lungs* being ſpoiled, and the *Blood* abounding with *Alkaly*, a part of this ſuperabundant *Alkaly* is thrown upon them, and cauſes all the havock that is made by this *Tyrannical Diſtemper*; and this being a Diſtemper that moſt of my *Predeceſſors* have died of, and of which I my ſelf am apprehenſive, has made me not a little inquiſitive into its *Nature* and *Cauſe*.

Secondly, That you might load the *Blood* of the *healthy perſon* with more *Alkaly* than I take notice of, you pretend from my own *Hypotheſis* (tho without reaſon) to aſſign the cauſe of the *Lucidneſs* of the *Atoms* of the *Caput Mortuum*, to proceed from the ſaid *Caput Mortuum's* abounding with *Alkalious Salts*. Now I can aſ-

ſure

ſure you, that the whole quantity of *Caput Mortuum*, which that *Blood* produced, would ſcarce afford one grain of Salt of any kind. But ſuppoſing it to contain but the fourth part of a grain of *Phoſporus*, which is a true *Animal Fire*, that would diffuſe it ſelf through the whole, and make it *lucid*. The *Phoſporus* is a true *Animal Fire*, and is to be extracted from all *Animal Subſtances*; and if it did not exiſt in them, how is it poſſible for it to be *extracted* from them? And that the *Phoſporus* is an *Acidoſulphureous* ſubſtance, is to be demonſtrated without difficulty. And I have plainly told you, that the *Pabulum* of *Animal Fires* is a *ſulphureous Acid*.

Your *ſecond* and *third Replies* I ſhall not meddle with, becauſe you either grant me what I have ſaid, or elſe proceed upon meer ſuppoſitions, of which I can take no notice.

But

But here you fall upon me again without that order I could wish for, first with *Answer*, and then *First* and *Secondly* again, and so on. Of this I shall take no notice, but go on from your first Reply to the Second, Third and Fourth, *&c.* in their order, and mark the pages in the Margent.

Pag. 6, 7, 8. Reply. You say, *That in page the 67th of my Answer, I know not what to make of your* warm Particles. *And by way of* Reply *you say, you mean* Alkalious Particles, *such as you believe the Blood abounds with in some* Fevers, *and in which you grant* Acids *are of use. But yet* (say you) *I cannot agree with your notion of* Fevers.

A Fever (say you Pag. 68.) *proceeds from a* Constipation *of some of the Emunctories, so that the* excrementitious Alkaly, *which should be carried off by them, is detained in the*

— Blood,

Blood, *which by breaking its* Globules, *&c. This Doctrine does not ſeem at all to correſpond with your* Practice. *For* Spirit *of* Vitriol, *and other* Acids *which are very* ſtiptick, *the uſe of which you applaud in* Fevers, *ſhould methinks conſtipate the pores more cloſely. And then they being of a very fixing nature, ſhould fetter or retain thoſe* excrementitious *Alkalies. Again, if* Fevers *are occaſioned only by a detention of theſe* Alkalies, *then it muſt follow, that when ever they have free vent, the* Fever *muſt abate. But the contrary has been ſometimes experienced, where the Patient has ſweated very liberally, and yet died at laſt. If this will not ſerve the turn, I hope to make it appear anon, that* Alkalies *are not capable of breaking the* Globules, *and making ſuch a buſtle in the* Blood. *But I cannot but ſpeak one word or two in their defence before I go any further. I am very apt to think, that in ſome* Fevers, *eſpecially Peſtilential and Malignant, the Spirits are*

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primarily affected, according to the Hypothesis *of the ingenious Dr.* Morton, *witness those symptoms which attend the* Nervosum Genus *immediately upon the first seizure. But you must not admit of this notion, from the soil which you must lodg in the Blood, and thence be communicated to the Spirits. Well, let it be so, I will not dispute it: the difficulty on your side will be great still. For, tho I shall readily grant the* Globules *to be broken in the aforesaid* Fevers; *yet 'twill be a hard matter to convict* Alkalies *of those tragical disorders. For first, experience shews, that nothing is more proper in those Cases Malignant (I shall adventure to use the term, notwithstanding it has been so scouted of late) than* pul. e Chelis, Rad. Serpentar. *nay,* Sp. C. C. *it self, given in a proper Vehicle. But secondly, Nothing does so readily dissolve the mass of* Blood, *or separate its Principles as* Acids, *which I shall prove by and by, when I come to speak something of Dropsies.*

ſies. But this long diſcourſe of the heat of the Blood, *does naturally lead me to conſider ſomewhat of its Flame.*

Remark. I do ſtill affirm that *Fevers* in general do proceed from a conſtipation of the *Emunctories.* Now what I mean by *Emunctories*, are thoſe parts which are only deſigned and provided by Nature for the ſeparation of the Excrements from the Blood; and whenever they are ſo diſordered as not to be able to perform that office, why then there muſt either a *Fever*, or ſome other great diſorder follow. And that this Doctrine quadrates with my practice is very plain. For whenever theſe *Emunctories* are over relaxed, they cannot ſqueeze out the excrementitious Particles in ſufficient quantities, and ſo they return back again into the *Blood*, and cauſe *Fevers*, or ſome other diſorder; and ſo of conſequence Spirit of *Vitriol*, or ſome ſuch kind of *Stiptick*

tick is the only proper remedy to take off this diſorder. But to knock this matter on the head, you ſay that in many *Fevers* the Patient ſweats ſo much, that by ſo doing it has coſt him his life. This I will readily grant you, but the Sweats you mean are certainly ſuch as we call *colliquative* ones; in which caſes the *Emunctories* are ſo overmuch relaxed, that they cannot bear a congeſtion at all, and ſo there is no ſuch thing as a ſecretion, but the Juices good and bad are all let out together; and unleſs they can be prevented by proper Stipticks, which will put Nature into her right courſe, the whole Fabrick muſt ſoon be deſtroyed. And it is alſo to be obſerved, that in ſuch *Fevers* the heat doth ſcarce exceed that of the natural temper, the Pulſe being alſo exceeding low. In the latter part of this Reply you altogether go upon ſuppoſitions, without the leaſt kind of

of demonſtration, and ſo it is ſcarce worth my taking notice of: but however to manifeſt my reſpect, I ſhall go on with it. As for what you mean by the Spirits being primarily affected in Peſtilential and Malignant *Fevers* (all deference being had to the worthy Dr. *Morton*) it is Heathen Greek to me: For by my own experience, (to uſe your own terms) in ſuch caſes I have found the *Blood* ſo full of ſoil, that from thence I ſtick not to acount for all the depreſſion of Spirits and other nervous Symptoms that attend thoſe *Fevers*. And for a *Fever* of the Spirits purely, a very late Author has ſufficiently exploded that matter. And in my own Practice, within the ſpace of a twelve month, I have been concerned with three Perſons (and thanks to God I have ſeen no more) that have had the true Peſtilence or Plague; the *Blood* of all which I have

 ſeen,

ſeen, and indeed it has rather deſerved the name of Soil than Blood, they being ſuch maſſes of Putrilaginous Subſtance, that no man could without horror behold; and (by the aſſiſtance of Providence) two of theſe perſons I recovered by the means of *Acids*, and believe I might have done the ſame by the third, had I been called in in time. As for what you ſpeak of your Experience as to the efficacy of *Pulvis è Chelis*, and *Sp. C.C.* it's a meer trifle; and if ever any thing was done after the exhibition of them, Nature her ſelf deſerved the whole honour, nothing in the leaſt being to be attributed to the Medicines, as may demonſtrably be made appear, and to pleaſe you I ſhall endeavour to do. But by the way I beg of you, that you will not rank the *Rad. Serpentariæ* with the *Pul. è Chelis* and *Sp. C. C.* for the *Rad. Serpentariæ* belongs to me, it being a

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moſt noble ſulphureous *Acid inveloped*; and that it is ſo I will be obliged to maintain. But to return. I do boldly aſſert that in no *Fever* that ever I have yet met with, let them be either *benign* or *malign*, have I ever yet obſerved that the Patient has been in the leaſt ſenſible of any Acidity in the Stomach or Mouth, but generally thoſe parts have been clog'd up with a Matter that looks ſo like *Alkaly*, that if it be not the very ſame, I am ſure it's no kin to the *Crab-Tree*. Now ſuppoſe it to be *Alkaly*, as it's plain it is, what can the *Pul. e Chelis*, which is a fixt *Alkaly*, or the *Sp. C. C.* which is a volatile one, do to remove; the *Pul. e Chelis*, or any Medicines of that Tribe, I mean of the *Teſtacea*, which for want of an *Acid* to diſſolve them, muſt lie upon the Stomach, and by clogging of that cannot fail of doing a great deal of miſchief to the whole Body? As

for *Sp. C. C.* or any Medicines of that kind, I cannot ſee what reaſon there can be for the exhibition of them, becauſe it is moſt demonſtrably manifeſt, that the Blood of feveriſh People is always overclog'd with Particles of the ſame Nature, *viz. volatile Alkalious Salts.* But inſtead of the *Teſtacea* and *volatile Salts*, if you uſe any of the following ſort of Medicines, I am apt to believe that your Practice in Malignant Fevers will be more ſucceſsful than it has hitherto been; *viz.* ſuch as *Aq. Theriacalis* in large quantities, *Mixtura Simplex*, *Elix. Vitrioli N^r.* an Infuſion of *Virginian Snake R^oot*, *&c.* in Vinegar, *&c.* but here I have not room to expatiate. By the uſe of theſe Medicines you may raiſe the Pulſe, and fortifie the deprav'd and paul'd Stomach, promote due and regular Secretions, and change the malignant colliquative ſymptomatick Sweats into

into benign and critical ones. But this is not a place for me to expatiate upon the method of the Cure of *Fevers*, that being reserved for a particular Tract by it self; which with some other things that I have promised the World, shall appear abroad as soon as I am able.

As for what you here say in relation to *Acids* dissolving the Blood, I shall now take no notice of it, because you handle that matter more largely in another place.

Reply. *And here the Life of Man you take to be a Fire or Flame, and all we eat and drink, together with the Air we draw in, to be Fuel for this Flame. The chief Arguments you bring to confirm this Doctrin, are taken from the Excrements of this Flame and its Fewel. The Excrements are* Alkalies, *which are near of kind to Ashes, the Relicts of other Flames: And for its* Pabulum, *'tis Acid and Sulphur the common* Pabulum

of all Flames. Here I must confess you talk very ingeniously, and highly improve the Notions of that great Philosopher. But let us examin this Hypothesis a little. As for Alkalies, I confess they are of the same nature with Ashes and Soot: Yet it does not follow, that because Alkalies are found in the Blood there must be a Flame too. We extract Alkaly out of several Herbs. 'Tis true the Herbs must be calcined first. But certainly the Salt was pre-existent in the Herb before the Calcination, or else the Fire produced it de novo, which you will by no means admit. The Inference then is plain. I will not adventure to say any thing of Crabs-Claws, Oyster-Shells, &c. lest you should make them the Recrements of a vital Flame. Come we next to the Pabulum, and that is Acid and Sulphur. That Bodies in which Sulphur is predominant, are inflammable no body questions: But that such in which Acid is the chief Ingredient should burn, looks like a Paradox. To in-

inſtance in a few: Acet. Spirit. *of* Vitriol. Suc. Limon. *&c. are ſo far from promoting Flame, that they immediately quench it: And indeed I know but one Acid in Nature, which is inflammable, and that is* Niter. *But then this Vital Flame is not of a Nature with Culinary Flames.* Anſwer, *Since the* Pabulum *is the ſame, methinks the Flame ſhould be ſo too. Again, tho you ſpeak ſo much of this Vital Flame, yet you do not (as I remember) much care to fix the Place of its Exiſtence. I ſuppoſe it muſt be in the Blood, if any where. Now 'tis very hard to ſuppoſe a Flame in that Body, of which no part is inflammable. If you open a Vein, and the Blood ſpouts out reeking hot on the Fire, it will immediately quench it. So that methinks, theſe Notions ſeem to be a little too finely ſpun. Acid and Sulphur did ſupport human Life, Men live upon Coals, Brimſtone, &c. in which there is ſtore of Acid and Sulphur. That we cannot ſubſiſt without Air is evident: For tho there is no*

Fire in the Blood, there is Motion undoubtedly. Now the Nitro-aereal Particles give a freſh Fermentation (or Motion) to it, and free it from Coagulation. If you are not ſatisfied with this, conſult the Ingenious Dr. Mayow. *But then the Blood has heat and warmth; and theſe are the Properties of Fire.* Anſw. *May they not be excited by its Motion? No (you* reply*) we are much warmer in Bed, when we uſe no Exerciſe, than when we are up and in Motion.* Anſw. *The Body indeed is in no motion there; but the Blood is greater than when we are out of our Beds; and 'tis impoſſible ſhould be otherwiſe. For do not the Bed-clothes protect us from the Coldneſs of the ambient Air? And are not a great many of the Volatile Alkalies detained by them, which reflecting upon the Body, warm it, and accelerate the Motion of the Blood? But after all, if we move violently when out of our Beds, we are much warmer than when in them. You are pleas'd to Object,*

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'tis impoſſible meer Motion ſhould cauſe any Heat in fluid Bodies. How ſo? Let a Man put Spirit. Corn. Cerv. *and* Spirit. Vitrioli *together, and obſerve their Effects, they will ſoon grow warm. 'Tis evident, they do not ſtand ſtill, but move very briskly before they are warm. And what is the Heat of theſe Bodies occaſioned by, but their Fermentation or inteſtine Motion? Surely it cannot be by Accenſion.*

Remark. That the Life of Man is a Flame, I think I have ſufficiently demonſtrated before, and ſhall here endeavour to make it ſomewhat more plain. The *Phoſporus* is a thing that is to be obtained from all Animal Subſtances; and that the *Phoſporus* is a Fire is paſt diſpute, it performing all thoſe things that common Fire will do, *viz.* enkindle inflammable Bodies, give heat and warmth to thoſe things that are near it, afford Light in the Dark, *&c.* and

yet

yet in very many things doth differ from common Fire. Now if this Fire were not actually existent in Animal Bodies, how is it possible that it should be extracted from them? Common Brimstone, Tallow, Pitch, *&c.* do abound with Sulphur, and so of consequence are inflammable; yet from none of these, by any Artifice now known, is there the least quantity of *Phosporus*, or any thing like it to be obtained. The *Phosporus* won't burn, without a free access of Air, any more than common Fire: But herein is a very great difference between the *Phosporus* and common Fire. Let any inflammable Body be never so well enkindled, and afterwards the Flame or enkindled part of it immerged in water, and it will instantaneously be extinguished, so as not to be able to recover it self, tho exposed to never so free an Air, without being again

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applied to ſome enkindled Body. Let a piece of *Phoſporus*, in a dark night, be placed upon a ſheet of Paper, it will immediately, of its own accord, afford a Light, will heat your Fingers, and burn the Paper; this piece of *Phoſporus* being put into water, will, in all appearance, be totally extinguiſhed, but tho it has lain in the Water for a whole Year, upon being taken out, will of it ſelf burn, *&c.* in the ſame manner it did when put into the Water. Upon ſtroking of ſome Cats in the dark, multitudes of ſmall flaſhes of Fire will follow ones hand, as I have frequently experienced: Now this gentle ſtroking can never cauſe ſo violent a Motion as you make Fire to be, and indeed is, unleſs it were actually exiſtent in the Animal before. Altho I confeſs Fire to be a Subſtance that is conſtantly in motion, and that this motion is a very brisk one, yet all brisk

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motion is not a Fire, which from the *Carteſian Hypotheſis*, ſeems to be a neceſſary concluſion: But I can aſſure you, I know ſeveral Fluids, that the more briskly they are moved, the colder they are; as for inſtance, a River is always colder in that part where there is a quick Current, than where the Water ſtands ſtill: The Air is always more or leſs cold according as the Motion of it is greater or leſs; and I can aſſure you I have been almoſt ſtarved when forced to travel in high Winds in the *Winter-time*, at which ſeaſon the Air is moſt full of *Nitrous Particles*, which you own to be inflammable; and behold here your *Nitrous Particles* in violent motion, and yet a Man almoſt ſtarved by them, nay ſeveral have actually been ſo, ſo that you may ſee it is not all kinds of violent motion, tho of Particles inclined to take Fire, that will cauſe a Flame.

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So that you ſee I have ſufficient reaſon to maintain my aſſertion, that meer Motion, tho never ſo much excited, will not occaſion Heat in fluid Bodies, and that there is a difference in ſome reſpects between the *Vital Flame* and common *Culinary Fire*, tho in many things they agree. I ſhall here again enumerate ſome things wherein *Animal Fire* and *Common Fire* do agree and diſagree. *Animal Fire* won't burn without a due acceſs of Air, no more won't *Common Fire*; *Animal Fire* cauſeth Heat and Warmth, ſo doth *Common Fire*; *Animal Fire* cannot ſubſiſt without a conſtant ſupply of ſulphurious-Acid Particles, neither can *Common Fire* ſubſiſt without a ſupply of the ſame Particles, *&c.* *Animal Fire* (for ſo I call the *Phoſporus*) being immerged in Water, and afterwards taken out again, will regain all its properties of Light, Heat, *&c.* without being applied to other enkindled

kindled Bodies: This *Common Fire* will not do; for let it be once extinguiſhed by immerſion in Water, or otherwiſe, and it is never able to recover it ſelf. I do ſtill aſſert, that thoſe Bodies which are the proper *Pabulum* for Fire, are thoſe which are compoſed of *Acid* and *Sulphur*; but thoſe which abound with moſt *Sulphur*, burn with the greateſt violence; thoſe which abound moſt with *Acid*, more ſlowly; and ſome *Acid Subſtances* which have little *Sulphur* in them will ſcarce burn at all, eſpecially if much diluted with Phlegm, ſuch as *Vinegar*, *Juice* of *Lemons*, *Spirit* of *Vitriol*, &c. and therefore when the Heat of the Body is too intenſe, I give thoſe *Acids* which are leaſt impregnated with *Sulphur*, to abate the violence of the Flame; when the Heat is too remiſs, I then give *ſulphurous Acids* to excite the Flame. You ſay you know but one

Acid

Acid in Nature which is inflammable, and that is *Niter*: Now I do aſſure you it is my opinion, nay I am very well able to demonſtrate, that moſt, if not all the pure *Acids* in Nature have their *origins* from the *Niter* of the Air, but pure *Niter* alone will ſcarce burn at all, unleſs mixed with ſome kind of *Sulphur*. As for fixing a particular place for the exiſtence of the Vital Flame, I did not think there was any reaſon for ſo doing, but now I tell you, that I ſuppoſe it is diffuſed through all the parts of the Body, and if by accident any part is deſtitute of it, a mortification enſues. But then again you ſay it is a hard matter to conceive a Flame in that Body, of which no part is inflammable. Pray what do you think of the Oily Fat Particles contained, not only in the Blood, but all other parts, are not they inflammable. The reaſon why we are warmer

warmer in Bed, and after violent exerciſe, is not to be attributed to any unknown Doctrin of Fermentation, but becauſe we have a freer Perſpiration at theſe times, and ſo of conſequence the Flame muſt burn more freely. The Compariſon you make between the Heat of the Blood and that occaſioned upon the mixture of the Spirit of *Harts-Horn* and Spirit of *Vitriol* will not hold good; for in the mixing of thoſe two Liquors, or in any kind of Fermentation, there is a very ſenſible commotion and hurry in all the parts of the ſaid Liquors, whereas in the Blood of well Perſons there is no ſuch thing to be diſcerned. I confeſs by the impulſe of the Heart it is driven progreſſively from the center to the extremities, to ſupply the neceſſities of the Parts; but beſides this progreſſive Motion, I know no other it has, all the Secretions being performed by proper Strainers,

Strainers, not from any Fermentation. Nay it is a very eaſie thing for a man to perceive that there is no ſuch thing as a Fermentation in the Blood by the following eaſie Experiment, *viz.* let a few ounces of Blood run out of the Veins or Arteries of a Man, or other Animal, into a very clear Glaſs Veſſel, which veſſel you may put into a Sand Furneſs, wherein the heat may be ſuch as to keep the Blood in the ſame degree of warmth as it came out of the Veſſels; and if there be any commotion to be ſeen with the beſt Light and beſt Eyes, like unto what may be ſeen in ſuch Liquors which are in a ſtate of Fermentation, upon information I ſhall gladly own my ſelf miſtaken. There is, I confeſs, a Froth to be ſeen upon the ſurface of ſome Blood after it is let out into the Porringer, which looks like the ſurface of Liquors which are fer-

menting : But this Froth is ſo far from being the effect of Fermentation, that it proceeds from nothing elſe but the different ſtream that the Blood runs in. For in the ſame Perſon, let one Parcel run out in a rapid ſtream, and it will occaſion froth or bubbles ; let another Parcel run out gently, and it will produce no ſuch thing. Will not ſimple Water or any other Liquor do the ſame? but Blood being a Liquor of greater conſiſtence, the bubbles when raiſed will not ſo ſoon diſappear, as in Water or other Liquors that are more fluid ; from which I hope it is plain, that the conſtant natural heat of the Blood does not proceed from Fermentation. And if the progreſſive Motion from the Heart to the Extremities gives it its heat, by the ſame reaſon, I think, the Water that runs from our Cocks ſhould be warm alſo ; whereas I dare be bold

to ſay, that inſtead of gaining any heat by its rapid propulſion through the Pipes, it is much colder than the Water in the River at the place from whence it was received into the Engine. I had like to have forgot to take notice of what you have ſaid concerning the production of *Alkalies*; but it being a very material thing, I ſhall here expatiate a little upon what I have before ſaid upon that Subject, and ſhall take care as much as may be to avoid repetitions. I have already own'd that *Alkalies* do actually exiſt in ſeveral Bodies as the principle of their death and deſtruction, but I never could yet ſee or hear of any one that has ſeen any ſuch thing as either a volatile or fixt *Alkalizat Salt*, that was any other ways to be obtained out of Vegetable or Mineral Bodies, than from the Bodies after they had been burnt, *viz.* out of the Aſhes or Soot of

them, which are their Excrements, or rather the Excrements of Fire; or else after the Body had undergone a Putrefaction, which is analagous to Fire. Now this being so in relation to Vegetables and Minerals, I think it may not be amiss to infer, that the *Alkaly* to be found in Animal Substances is the Excrement of their Fire; and which mightily confirms me in this Notion, all the Excrements of Animals are *Alkalious*, *viz.* a Matter thrown away either as useless or incommodious; and of consequence all the *Alkaly* to be met with in the Blood or elsewhere, is an Excrement in a way of being carried off. More upon this Head I shall not say at this time, by reason I shall have occasion to enlarge upon this, and upon the Heat of the Blood in my Tract of *Fevers*. But what I have now and before said is, I think, sufficient to satisfie any one who

who is not a meer *Sceptick*. But for manifeſt *Acids*, they are to be met with every where almoſt, both in the Mineral and Vegetable Kingdoms, even in thoſe Bodies that have never undergone a Putrefaction, but are in the greateſt ſtate of Perfection; and for *Vinegar* and the like, it is ſo far from being the effects of Putrefaction, that it is the laſt degree of Perfection Nature alone is capable of bringing thoſe Liquors to. It is alſo to be obſerved, that thoſe Fruits of which Wine is made, were firſt *Acid*, before they came to a ſtate fit to make Wine of; and that Putrefaction is the Cauſe of the Acidneſs of Unripe Fruits, I believe none will aſſert. This Subject is alſo too long to treat fully of in this place, and therefore I ſhall alſo omit the further proſecution of it for a *Practical Diſcourſe*.

Reply. *If* Alkalies *are the Original of Diſtempers, whence is it, that in*

Dropſies, Catarrhs, *ſome* Gouts, *and other Diſeaſes, we find the Texture of the Blood ſo thin? 'Tis obſervable, that thoſe Particles you term* Alkalies, *the more the Blood is ſaturated with them, of the more thick Conſiſtence it is, as we ſee in* Pluriſies, Rheumatiſms *and other Inflammatory Caſes (in which Diſtempers, if in any, the* Alkalies *abound) Is not then its Tenuity rather to be imputed to* Acids? *Do not* Acids *immediately put the Blood in a Fuſion, and render it thin? Your* Anſwer *to this is, that 'tis not the Thinneſs of the Blood is the only Cauſe of theſe Diſtempers, but a Deſtruction of the Tone of the Parts. Here methinks you do not argue ſo fairly. For you mention little or nothing of the Deſtruction of the Tone of the Parts in your Etymologies of Diſtempers till now. And why may not I as well ſay, in Inflammatory Caſes the Blood is not affected with any Alkaline Particles? Theſe Inflammations only ariſe from a Deſtruction of the Tone*

of

of the Parts; especially, if you consider what you asserted in your Notion of Fevers: *For there the* Emunctories *are very much out of order. But (you object) since* Acids *will reduce the Blood to its due Consistence, it is not reasonable to suppose they should be the Cause of its Fusion.* Answ. *Whether* Acids *will restore the Consistence of the Blood I shall examin by and by: I fear they will not. But this I am certain of, they will put it in a Fusion. 'Tis well known that your celebrated Oyl of* Vitriol *taken alone, or tho in a Vehicle, if in too great quantity, kills. Now how does it kill? Does it not by dissolving the Mass of Blood, by separating the Grumous Parts from the Serous, and breaking its Texture after the same Manner as it does that of Milk? Sure I am, that Blood coagulated by the aforesaid Oyl, does much more resemble Whey and Curds than Jelly of* Harts-horn. *Now then, what is all this but an Extraordinary Fusion? And if a large Dose will make such*

mad Work, and put the Blood into ſo great a Fuſion; certainly a leſs Doſe muſt cauſe ſomewhat of a Fuſion. And 'tis rational to believe that Oyl of Vitriol *is proper only in thoſe Diſtempers, where the Blood is too thick; very pernicious in ſuch as have it too thin. And here I am very glad, that you ſo opportunely give us your Sentiments of* Dropſies. *A* Dropſie *(ſay you) or the Thinneſs of Blood in that Diſeaſe does not proceed from* Acids, *but overmuch Drinking.* Anſw. *That large Draughts (there being little Evacuation by Urin) render the Blood more thin is very obvious. But now the Patient had no ſuch deſire for Drink, till the Diſtemper was actually upon him. So that the* Queſtion *is, what firſt brought on the Diſtemper. Was it not a weakneſs of Blood or want of due Conſiſtence? I do not ſee how you can well deny it. But then (you* reply*) let it be ſo, 'tis impoſſible* Acids *ſhould occaſion this ill Habit of Blood. For, Hy-*

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dropical People are Thirſty, and 'tis ridiculous to imagin that Acids ſhould excite Thirſt, when they are the only Things in the World that will quench it. Anſw. This I confeſs, at firſt ſight, looks like an invincible Argument: But I muſt crave leave to weigh it a little. That Acids drank, or held in the Mouth, uſually quench Thirſt, is an undeniable Truth: Tho 'twill hardly hold good in all Caſes. For, let a Man drink Brine, which is very much impregnated with Acids, or eat high-ſeaſoned Meats; I believe tho he were a Stoick he would immediately grow thirſty. But common Salt is not an Acid of a right Nature. Well, admit this. The moſt famous Acids that I know for ſuppreſſing Thirſt, are Oyl Vitriol. Spirit. Vitriol, &c. Now I hope to make it appear, that theſe, or Acids of the ſame nature, abounding in the Blood, may provoke Thirſt. I proved juſt now, that Oyl of Vitriol had an ugly Faculty of coagulating the Blood, or ſeparating its Serum.

rum. That there is a Separation of the Serum in Dropſies *is evident: If any Man ſhould deny it, let him look upon the* Abdomen *and extream Parts, and his Eyes are enough to convince him. Well then the Serum being thus ſeparated (pray obſerve) and the Maſs of Blood not enough diluted; the oral Glands muſt neceſſarily be defrauded of their due Moiſture, and conſequently Thirſt excited. But ſtill you harp upon the ſame ſtring: Thoſe Medicines which reſtore the Conſiſtence of the Blood, cannot well be ſuppoſed to impair it. Now* Acids *reſtore it; and Steel in particular.* Anſw. *That Steel is of excellent Uſe, and a very great Reſtorative, is not to be denied. But under favour, tho you diſcourſe very ingeniouſly of the Nature of Steel: Yet all you have ſaid will not amount to a Proof of its being an* Acid. *I am ſtill inclined to think it is an* Alkaly. *For tho it does not diſcover it ſelf to be ſuch by its Colour, yet it plainly does by its Effects,* viz. *its Fermen-*

mentation with Acids. *If, notwithſtanding this* Phœnomenon, *you will needs have it to be an* Acid, *why then one* Acid *will ferment with another; and ſo one* Alkaly *with another: wherefore, tho we ſhould ſubſcribe to the* Hypotheſis, *that* Alkalies *are the Original of all Diſtempers, yet 'tis hard to exclude the Uſe of them in general in Diſtempers. For ſome* Alkalies *or other might be found out that ſhould diſpute it with theſe offending* Alkalies. *You are pleaſed to quote* Becker *for a Confirmation of the Acidity of Steel. The chief Sentence of the Citation ſeems to be this.* Hoc tantum hìc loci allegabo, omne acidum ſubſtantiæ martialis eſſe, in quocunque oleo, pinguedine, fuligine, limo, ſilice & arenâ, immo etiam ipſâ flammâ reperibile, & ad oculum demonſtrari poſſe; quæcunq; ergo naturæ Acidæ & martialis ſunt, illa poteſtatem habent Alkali tanquam ſubſtantiam metallorum mercurialem alterandi & tranſmu-

mutandi. *If I apprehend the Senſe of the Author, this does not make ſo much for you. But ſuppoſe it did,* Beeker *was never reckon'd Infallible. And tho* Chalybs *were an* Acid, *it does not follow, becauſe one* Acid *will renew the State of the Blood, that others will do ſo too. But ſince we have ſo happily fallen on this Subject,* viz. *the ſtrengthning the Maſs of Blood; let us ſee what other Medicines beſides* Chalybs *are ſubſervient to this End. And here I ſuppoſe your bitter Herbs may not be* infimi ſubſellii. *'Tis needleſs to prove it; for hardly any* Phyſician *but what has experienced it. I do not believe you will dare to ſay, there is any thing of an* Acid *in theſe, ſince you know very well that* Alkaly *may be extracted from moſt, if not all of them. So that poor* Alkaly *is effectual in ſome Caſes you ſee. But then* (you ſay) Oakbark, Biſtort, Tormentile, Comfrey-roots *and others of that Tribe will reduce the Blood*

to

to Conſiſtence. Anſw. *That they are aſtringent I grant; whether they will reduce the Blood, or invigorate its depauperated Principles, I much queſtion. 'Tis very rare to ſee them preſcribed in* Dropſies, Cackexies *and the like Diſtempers where the Blood is poor and low. They are proper indeed in* Fluxes *by virtue of their aſtringent Faculty; but then they owe this Aſtringency to* Acids. *Whether they do or not it matters not much. But why may not this Quality be derived as well from the Terreſtrious as the Salt Particles of theſe Vegetables: Since* Bol. Arm. Terra Lemnia *and other plain Earths are very ſtiptick? I do not ſay theſe Earths are ſo ſimple as to have no manner of Salt in them, but ſurely they have very little* Acid.

Remark. I am very glad you own *Alkalies* to abound in *Pluriſies* and *Rheumatiſms*, and other inflammatory Diſtempers. Upon my word if this be granted, I have gained a great point; for to have put the World in-

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to a true way of Curing but one ſingle Diſtemper, is what deſerves no ſmall Honour. And for the buſineſs of *Dropſies*, I do aſſure you I have no reaſon to recede from what I have ſaid upon that Subject; but if you or any one elſe would favour the World with as certain a Method of curing a *Confirmed Aſcites* or *Belly-Dropſie*, as I have done of curing *Rheumatiſms*, *Gouts*, &c. I my ſelf would ſpare no pains to trumpet up that Man's Fame, let him be who he would: But this is a thing I am afraid I ſhall never live to ſee effected, becauſe the *Tone* of the *Parts principally affected*, is ſo deſtroyed and ſpoiled, that it would be next door to a *Miracle* to recover them. And although you are pleaſed to charge me with arguing unfairly, for attributing the Cauſe of *Dropſies*, in a great meaſure, to proceed from a deſtruction of the *Tone* of the *Parts*, be-

becauſe I had not before in my Etymologies of *Diſtempers*, taken ſufficient notice of that Matter: Well, ſuppoſe I had before been deficient in that point, I hope it is no Crime to bring it in late, rather than not at all. But I do aſſure you, I have frequently taken notice of that Matter, and do lay as great a ſtreſs upon it as upon any one thing whatſoever; and I do ſtill inſiſt upon it, that the great Thinneſs of the Blood in *Dropſies* dos in great meaſure proceed from the great quantities of Liquids taken into the Body, and the ſmall quantity diſcharged, by reaſon the Parts of it have loſt their Tone, and therefore the *Secretions* not rightly to be performed; a man that drinks two Quarts in twenty four hours, not being able to piſs, perhaps, above four Ounces, *perſpiration* alſo being greatly hindred upon the ſame account. Now for want of

a due *ſecretion* by the *excretory Veſſels*, the Blood is clogged with too great a quantity of *Serum*; which *Serum* being admitted into the *Lymphatick Veſſels*, and being impregnated with *Alkaline Particles*, cannot freely paſs along theſe Veſſels by reaſon of its *Gelatinous* quality, by which means they are diſtended to a vaſt Magnitude, and ſometimes broke; and from the broken *Lympheducts* it is, that ſo great a quantity of Liquor is thrown into the Cavity of the *Abdomen*, which diſtends it to ſuch a bigneſs. But for all this great quantity that is thrown into the *Abdomen*, the Blood is ſtill loaded with three parts in four more of *Serum* than it ought to be, and therefore the *Oral Glands* cannot want ſufficient Moiſture. But here lies the thing, the Matter that in a ſtate of health is ſeparated by the *Oral Glands*, is impregnated with a Noble *Volatile Acid*,

as

as does manifeſtly appear. But in this Caſe the ſaid *Acid* is almoſt, if not totally deſtroyed, and the ſaid *Lympha* impregnated with *Alkaly*, which is the occaſion of the great Thirſt that attends *Hydropical People*. But ſince I have attributed an *Acidity* to the *Lympha* in a ſtate of Health, and yet aſſert that there is no ſuch thing as a Pure *Acid* to be obtained from the Blood either in a *Morbid State* or in a *State* of *Health*, that being inveloped in the *Oily Particles*, I ſhall preſume, to avoid further *Objections*, to make a little excurſion concerning the general uſe of the *Glands*.

I ſhall at preſent divide the *Glands* into two kinds or ſorts, the firſt of which ſeparate the *Excrementitious Particles* from the *Blood*, and throw them quite off by ſome proper *Emunctories*, ſuch are the *Excretory Glands* of the *Skin*, the *Glandulæ Renales*,

nales, the *Glands* of the *Liver*, &c. all which do ſeparate an *Alkaly* from the Blood, to be thrown off as *Excrement*; and if by any accident theſe *Glands* are made uncapable of performing their office, ſo that the Blood cannot be rid of its Excrements, why then a Diſtemper of ſome kind or other muſt neceſſarily follow. The *Second Kind* do receive a Noble Subſtance into them to be again mixed with the Blood, or for other Uſes, of univerſal Advantage to the whole Body. The *Glands* of the Mouth do ſeparate the thin Juice impregnated with a *Volatile Acid*, which Juice was never deſigned by Nature to be thrown away, as ſome *Tobacco-takers* laviſhly do, but to impregnate our Food as it is chewed in the Mouth, and afterwards to diſſolve it in the Stomach, and turn it into a Subſtance fit for the Nutrition of our Bodies. The other *Receptory Glands*, for ſo I preſume

ſume to call all thoſe which do not ſeparate Excrements from the Blood, do, by the extraordinary providence of Nature, receive into them that fine Subſtance which is ſuperfluous in the nouriſhing of the Parts, and by means of the *Lympheducts*, in a gentle and eaſie courſe, do convey it to the *Ductus Thorachicus*, where it is mixed with the Chyle, juſt before it is admitted into the Blood; and that this *Lympha* is a *Mild Acid* has already been owned by many. So that here you ſee, if there be any *Acid* in the *Body* ſuperfluous, Nature is very provident in the preſervation of it, and equally careful in throwing off the ſuperfluous *Alkaly* by a multitude of *Emunctories* or *Excretory Glands*.

From what has been ſaid concerning the Uſe of the *Glands*, a great many *Phænomena* concerning *Dropſies*, and other Diſtempers, may

with eaſe be ſolved. In *Dropſies*, for inſtance, as is before obſerved, the *Excretory Glands* not being able to perform their Office, the *Excrementitious Alkaly*, together with its *Watry Vehicle*, is detained in the Body; by which means, altho the Body may increaſe in bulk, yet none of the Parts receive their due Nouriſhment; and the *Tone* of the whole being relaxed and ſpoiled, the *Receptory Glands* forget their duty alſo, and inſtead of receiving into them a pure acidulated *Serum* only, they are forced to let paſs ſome Alkalized Excrementitious *Serum*, which makes the whole of a kind of *Gelatinous Conſiſtence*; which not being able to paſs along the Tracts of the *Lympheducts*, diſtends them to that degree that it cauſeth ſwellings in the Belly, and *Ædematous Tumors* in the Legs, *&c.* And *Belly-Dropſies* having for the moſt part a *Jaundice* as their Forerunner, nay fre-

frequently goes along with them through the whole courſe of the Diſtemper, is no ſmall Argument to prove the Truth of what I have before taken notice of, *viz.* that ſome of the *Excretory Glands* have been defective in their duty, by which means the whole Body is impregnated with this *Yellow Die*, and the whole *Æconomy* put out of order: And that the Yellowneſs of the Body does proceed from a redundancy of *Bile*, no body denies; and that *Bile* is an *Alkaly* you don't diſown. But now come we to the Curative part of this *Damnable Diſtemper*; which altho it be rarely to be performed in a *confirmed State*, yet in the beginning, nay after it has made ſome progreſs, is frequently to be done, and that as effectually by *Calibiats* and *Bitters* as by any ſort of Medicines. But here for want of making Experiments, (by which

means only we are capable of arriving to any ſort of Certainty in the knowledg of things) you ſay that Steel and the bitter Herbs are *Alkalies*, and the reaſons you give for it are, becauſe Steel being mixed with *Acids* will cauſe an *Effervescence*, and the bitter Herbs, after burning, do afford a fixt *Alkaly*. Solid Reaſons indeed! For all *Sulphurs* being mixt with *Acids* will cauſe an *Effervescency*, nay ſome of them take Fire; and that all *Metals* are full of *Sulphur* is paſt diſpute; and from the Aſhes of all Plants, even *Sorrel* it ſelf, may be extracted a fixt *Alkaly*; therefore by this way of arguing, *Sulphur* muſt be an *Alkaly*, and ſo muſt *Sorrel* alſo. But the manner of the Production of Volatile and Fixt *Alkalies* having been ſpoken to before, I ſhall ſay no more to that Matter. I ſhall touch a little upon what I take to be the General Principles of mixt Bodies,

dies, not that all these Principles are to be separated from all Bodies, some containing all, some two, three or four of them; and according to the different mixture of them, different Substances are produced. *Acidum* and *Sulphur* I take to be the *Vital Active Principles* in *Bodies*, *Alkaly* the *Principle* of *Death* and *Corruption*, *Water* and *Earth* the two *Passive Principles*. From these *five Principles* I think I can more easily account for the *Various Phenomena* in *Natural Bodies*, than from the old Five of *Salt*, *Sulphur* and *Mercury*, *Water* and *Earth*, or from any other *Principles* that have yet been broacht in the World. I have only mentioned this matter to let you know the Principles I go upon, but shall leave the further prosecution of it to another opportunity. But to return to the business of *Steel* and *Bitters*; as for *Steel*, I have said so much already concerening that in se-

veral places, that I ſhall not here trouble my ſelf nor you any more about it. But if we can cure Diſtempers with it, it is no matter tho one takes it for an *Alkaly*, and the other for an *Acid*; nay I can aſſure you, that if you will but black your Fingers a little with Charcoal, you will find it to be a ſulphureous *Acid*. As for *Bitters*, I will be bound to lay a good Wager with you, that if you put a pound of *Centaury* or *Wormwood* dried into a Retort, and diſtil it with an eaſie Fire till all be come off that will, and afterwards calcine the *Caput Mortuum*, and extract the fixt *Alkaly* from the Aſhes, if you don't find a treble or much greater proportion of *Acid* to that of *Alkaly*, to be produced from theſe moſt bitter Plants, I will be a loſer; and I aſſure you I will lay you or any one elſe a good ſum upon this matter. But further, if bitterneſs did proceed from a predo-

minancy of *Alkaly* in any Body, why then a man would ſuppoſe the more this Body were impregnated with *Alkaly*, the bitterer it would be: but upon my word I have frequently experienced the contrary. For when I was a Champion for *Alkalious Medicines* (as I am not aſhamed to own I once was) I have extracted a Tincture from *Mirrh*, *Alloes* and *Saffron*, with well rectified Spirit of *Sal Armoniack*, hoping to do great Feats with it. Now after I had digeſted them together for ten or twelve days in a gentle Sand-Heat, inſtead of having the Tincture bitterer than the *Mirrh* and *Alloes* themſelves were, I have always found it almoſt, if not altogether, without any bitterneſs at all in it. Nay after a longer digeſtion it has been almoſt perfectly ſweet. However I lay not any great ſtreſs upon Taſts, the differences in them being one of the ſpe-

ſpecifick differences the Great Creator hath planted in things, of which we have as yet but very little knowledg. A few degrees of predominancy of any of the Principles, cauſe very great alterations in Bodies, both as to *Colour*, *Smell* and *Taſt*; and for ought I know, a knowledg of theſe *Minute Circumſtances* is what we have no poſſibility of arriving to in this World. But one word more concerning *Bitters*, becauſe you will account them *Alkalies*; and lay ſo great a ſtreſs upon them. *Vitriol* of *Silver* is the moſt exalted Bitter I know, and a Celebrated Medicine in the Cure of *Dropſies*, but yet is no *Alkaly*; and after you have conſidered it, I believe you won't term it ſo. What you ſay to *Acids* fuſing the Blood, it is directly contrary to what our Predeceſſors have aſſerted, who attributed its coagulation to *Acids*, and to what you your ſelf ſay a little after.

after. But what I attribute to *Acids* in general is this, that they keep the Blood in its due ſtate, *viz.* keep the *Fibrous* and *Globulous Parts* in their due *Texture*, and keep the *Serum fluid*, by which means the whole Maſs is capable of performing its proper Offices without being liable to *Stagnations*; and alſo by confirming and ſtrengthning the *Tone* of the Parts, they greatly contribute to the aforeſaid end, *viz.* preventing *Stagnations*, and promoting the *Secretions*. As for what you ſay concerning the giving of *Oyl* of *Vitriol* alone, I readily aſſent to it, that it will make mad work. But I hope you cannot charge me with any ſuch *mad Practice*. When People are cold, they naturally run to the Fire for warmth, but none but mad Perſons will put their hands into it; and altho Culinary Fire, if People are ſo imprudent as to throw themſelves into it, will conſume

ſume and deſtroy them, yet a prudent uſe of it is a very great comfort to Humane Life; and were it not for Fire the *Ruſſians* and other *Northern People* would have but a very ſad time on't during the courſe of their long *Winters*: ſo it is in relation to *Oyl* of *Vitriol*, altho given alone it will cauſe Death and Deſtruction, yet being diluted in proper *Vehicles*, and given in very large quantities, will in many caſes produce as noble Effects as any one Medicine now known. It is the buſineſs of a Phyſician to conſider the Nature and Conſtitution of his Patient in all reſpects, and to proportion the Doſes of Medicines according to what their Stomachs and Natures will bear. I hope there was never any one ſo wild, becauſe *Oyl* of *Vitriol* is recommended in *Fevers*, as to give it alone without a *Vehicle*. But what you charge upon *Oyl* of *Vitriol* may

may be retorted upon moſt other Medicines of an active Nature. Becauſe an ounce of *Calamelanos* given at once to a Man will ſcarce fail of killing him, I ſuppoſe that don't deter you from giving a few grains of it to a young Child. An ounce of *Rozin*, of *Jallup* will kill a Plow-man, and yet a few grains may with ſafety be given to a very tender conſtitution. I could retort a great many things of this kind upon you, were it not altogether needleſs: for that Phyſician that gives a Medicine without firſt conſidering it in all its circumſtances, deſerves to be baniſhed from the ſociety of Mankind; and he that knows moſt, is generally moſt cautious: and altho I am ſo clamour'd at by my Brethren, yet I can boldly ſay, that the greateſt ſlips that ever I have made, have been from my over-cautiouſneſs; and I will rather chooſe to commit three faults from

from that, than occaſion the loſs of one Man's Life from raſhneſs and inconſiderateneſs. What you have objected againſt *Oyl* of *Vitriol* taken alone, has long ſince been objected by other People, and the Objections fairly anſwered. I ſhall preſume to tranſcribe what I have met with in an *Apologetick Dialogue* between *Philerastus* and *Chemiſta*, upon the ſame Subject, *Theatrum Chymicum*, *pag.* 86, 87. *Vol.* I.

Ph. *Abſit tamen Vitriolum, Chalcithin, atque alia idgenus leproſa, impura, atque corrodentia mineralia in humanum Corpus ingeri, & ad perpetuam tui Nominis ipſiuſque artis infamiam uſurpari.*

Ch. *Quid ita, Hoſpes mi?*

Ph. *Nam cum Oleum Vitrioli etiam à Geſnero toties laudatum, Scutellam Stanneam exedit: quis ſimile periculum in Stomacho noſtro membraneo non meritò verebitur?*

Ch.

Ch. *Aſpera tu quidem tela elidis, ſed quæ facilè retundi queant à Philoſopho excitato. Nam ſi Oleum Vitrioli propter Stannum ex eo exeſum humano corpore exulabit: quid Vino ſublimato, Aceti Melliſque Spiritu, quid tale, & Limonum Citrorumque ſucco fiet? Nam eorum unumquodque Stannum abſumere, vel ſtemeſtris Medicus agnoſcit.*

Ph. *At non tam parvo temporis Curriculo, atque Spiritus ille vitriolatus.*

Ch. *Imo ſanè minori, ſi cum noſtro illius exhibendi modo conferatur ratio; nollem enim te aliquem Chemiſtam tam ſtupido ingenio præditum exiſtimare, ut Oleum Vitrioli nullis aliis mixtum Liquoribus propinare auſus ſit: ſed potiùs ad aquæ Roſaceæ vel alterius Liquoris libram Olei Vitriolati guttas totidem adjicere, quod ad aciditatem comparandam ſatis eſſe queant, cui Liquori Oleo Vitreoli accreſcenti, ſi tantum Stanni immerſeris, quantum Aceto: nullum non invoco ſupplicium, niſi Stannum multo magis corroſum reperiatur.*

tur. *Verum si hoc Oleum Vitrioli vel etiam Sulphuris in usu esse non mereatur propter erosionem, quo se conferent cantharides, à Galeno inter ea Medicamenta relatæ, quæ ne gustare quidem audeas propter summam putrefactionem atque erosionem? tamen veterum ferè omnium atque multorum Neotericorum praxes eas ad Urinam provocandam, penisque* ατονίαν *& suscitandam Venerem usurpant atque commendant.*

Ph. *Nequeo diffiteri, sed tamen parva quantitate eas prescribunt, & non nisi aliis convenientibus rebus admixtas; quo quidem modo exhibitæ non solum innoxiæ perhibentur, sed etiam persalutares.*

Ch. *Vera prædicas, atque ego itidem respondeo; Olea prædicta debita quantitate, mixtura, præparatione exhibita, tantum non corrodere corpus humanum: sed ejus spiritus reficere, Febres extinguere, obstructiones aperire, putredinem arcere, venena exigere, sitim sedare, Ulcera percurare, omnesque illas vires cum laude sua plurima*

plurima exercere, quas illi Geſnerus Epiſtola ad Coſmam Medicum, aut Paracelſus in Libro de Vitriolo aſcripſerunt.

I could produce a great deal more of this kind from many of the antient Chymiſts, who were honeſt men, and who to the beſt of their knowledg did endeavour to reform *Phyſick*, and to put Practitioners upon a right bottom: But they were defective in ſo many things, that their undertakings wanted ſucceſs, tho from ſome of their Writings honeſt and inquiſitive men may receive great advantage. Altho I ſhall not trouble you with any thing more from the Antient Chymiſts, yet I ſhall make bold to tranſcribe a Letter I lately received out of *Yorkſhire*, there being ſomething in it that relates to the point in hand.

Tertio Non. Martii.

Vir Dignissime,

TRactatus tuos summis cum deliciis & voluptate perlegi, & tuum in promovendo illo Nobilissimo Medicinæ studio institutum maxime demiror in humani generis bonum universale: Macte Bone Vir Melioribus Avibus, & Momas aspernare: Te certum faciam me acidis uti 10. *annis elapsis summo cum successu, & Alkalia tantum ut absorbentia Acidi æstimo: assiduâ experientiâ videatur quantum valet appetitus & digestio, & quid dubius est hoc in casu quam Alkalia & quid melius Acidis: & Acidum est tantum solum fermentum Ventriculi, quid Coward audet dicere nemo advertet. Omnibus in seculis præteritis quot Morbos edomuit Acidum non necessarium est enumerare. Virum quendam habui putridâ Febre laborantem, quem tantum Sp. Vitrioli in aquâ frigidâ (Deo favente) restitui: in Hæmoptoe,*

moptoe, Hydrope, fluxu Muliebri, & fere omnibus in ventriculi Morbis, Scorbuto infinitos fere curavi Acidis commixtis, & in vehiculis appropriatis exhibitis. Equitem Vicinum meum calculo cum Paralisi & Hæmorrhodali fluxu decumbentem quodam Acido ad priorem valetudinem reduxi, & ab Orco detraxi: immo quamvis in Hypocondriaca affectione Acidum culpamus, tamen quid emolumenti in isto Proteo accidit à quodam Acido non est nunc enarrandi locus, hic Acidus meus liquor omnes obstructiones reserat & flatum, Gas illud Sylvestre compescit, & omnes istos motus irregulares componit (instar fulminis) si quicquid in Praxi vel Lectione meâ occurrit summâ cum sedulitate ad te (mi bone Vir) mittetur.

Nam tui favoris sum studiosissimus

Jo. Watson.

Poſtſcript.

Be pleaſed to direct a Letter to me, to be left with Mr. *Uſter*, Apothecary in *Burnſly* in *Yorkſhire*, by *Doncaſter Bag*. I beg a Literal Correſpondence, and ſhall communicate to you ſome *Acid Arcana*, for that name they deſerve.

I hope what I have ſaid is ſufficient to remove that Mighty Objection about the hazard of giving Oyl of *Vitriol* alone: But I might have ſpared my ſelf this trouble, for I am almoſt poſitive, that there is not any *Phyſician* in *Chriſtendom* of any buſineſs, tho never ſo great an aſſertor of the uſefulneſs of *Alkalies*, who has not ſome time or other made uſe of even Oyl of *Vitriol*, that dangerous *Acid*: but how they can anſwer for it I cannot tell: for if *Acids* are the cauſe

of

of Diſeaſes, how they dare with a good Conſcience give even the moſt temperate *Acids* to their Patients, I cannot underſtand; and I am ſure they themſelves can give no reaſon for it. But I believe it is from a conviction of Conſcience that nothing is to be done without them. Again, if *Acids* were ſo pernicious to Mankind, as ſome People would make us believe, I wonder that the College of Phyſicians don't unanimouſly petition the Parliament to prohibit the Importation of *Oranges* in ſuch vaſt quantities as we now have 'em. You greatly harp upon that ſtring, that *Acids* held in the Mouth won't quench the violent Thirſt of Hydropical People; to which I anſwer, that it is impoſſible when the whole Maſs of Blood and *Lympha* are contaminated with *Alkalious Particles*, that the waſhing the Mouth only with *Acids* ſhould take away

the Thirſt, when the parts are continually waſhed with the contaminated Juices, and ſo, of conſequence, the particles of the *Acid* muſt be ſoon *obtunded*. But however nothing is more grateful or delightful to an *Hydropical Perſon*, than a ſlice of *Lemon* or any ſuch thing. Common Salt I allow will excite Thirſt, but not *quatenus Acid*, for Spirit of Salt will take it off as ſoon as any thing. But, Sir, I do aſſure you I have ſtumbled more at this one thing, *viz. Common Salt's exciting Thirſt*, than at any thing elſe beſides, and therefore have ſpared no coſt in making *Experiments* to find out the reaſon of it; at laſt, after much *labour* and *ſweat*, I found there was no *Salt* but what had more or leſs of a damn'd thing call'd *Bittern* mixt with it, of which you may be perfectly inform'd at any Salt Works; now this *Bittern* is the moſt corroding

roding fixt *Alkaly* in Nature; and altho it be inconsiderable in quantity in respect of the *Acid* the Salt contains, yet it will fix it self upon the parts after the *Acid* of the Salt is all dissolved, and so excite Thirst. Of this *Bittern* you may expect more in another place; for had I not had a design to please and satisfie you, I would not at all have taken notice of it here; because the allaying of violent Thirsts I only attribute to manifest *Acids*, and common Salt not being one of that sort, it matters not whether it will allay Thirst or not. I love not repetitions, but however for once I shall be guilty of it. You may remember that in another place I tell you, that those things which by Distillation afford a greater quantity of *Acid* substances, than of *Alkalious* ones, are to be reputed *Acids*, *& vice versa*; now common Salt affords nineteen parts in

twenty more of *Acid* than of *Alkaly*, therefore is an *Acid*: but before Diſtillation the *Acid* is ſo *inveloped*, altho it contains ſo much of it, that it is not at all diſcernable to the Taſt. I believe no one that has blackt his Fingers will deny *Guaiacum* to be an *Acid*, but at the ſame time I believe it was never preſcribed to allay Thirſt. Things, tho of the ſame Tribe, are differently to be adminiſtred, according as they are differently ſpecificated by Nature. It is not a certainty of the knowledg whether *Acids* or *Alkalies* are the Cauſes of Diſeaſes, will preſently make a man a Phyſician, tho it will go a great way towards it, but a thorow knowledg of the different ſpecifications of Nature muſt alſo concur.

You charge me with contradicting my ſelf, and after that you ſhould have been ſure to have avoided any

ſuch

ſuch thing your ſelf; but however in one place you ſay, that Oyl of *Vitriol* diſſolves the Blood, and in another that it coagulates it; but I ſhall take no advantage of this ſlip, but ſhall conclude my Remarks upon this Paragraph, I having already ſpun them out to too great a length.

The next Paragraph is too long to tranſcribe, and there being little material in it, I ſhall only make ſome general Remarks upon what I find worthy taking notice of.

You firſt of all charge me with ſaying, that neither too much nor too little *Acid* muſt be given, which is the ſum of a Page or two, *viz.* 19, and 20. In anſwer to which, I do aſſure you, that no *Virtuoſo* need be aſhamed to employ his time in conſidering the due proportions of things requiſite to accompliſh the thing he undertakes. Now in Phyſick

ſick he that doth not underſtand the true Rules of Proportion, deſerves not the Name of a Phyſician. He that will preſcribe an Ounce of *Jallap* inſtead of a Dram deſerves to be hang'd; and who but a mad man will give a Pound of Oyl of *Vitriol*, when forty Drops in a Pint of Water is all that is deſired? But, Sir, prudent Phyſicians have a wonderful Director in relation to Manifeſt *Acids*, and indeed to every thing elſe, that is the Stomach, which is a nice judger of things; that which is agreeable to her, ſhe receiving and retaining with pleaſure, that which is diſagreeable ſhe rejecting and abhorring. But however ſhe muſt not be overloaded with thoſe things in which ſhe taketh the greateſt delight. Now Manifeſt *Acids* are things ſhe as much or more covets and delights in than in any thing beſides; but when ſhe hath enough to ſupply her wants

ſhe

ſhe gives ſufficient item of it; and if the Stomach be rightly conſulted, it is impoſſible the Blood ſhould be overcharged with them; but if at any time People are not ſufficiently cautious of that matter, but load the Stomach with more manifeſt *Acids* than the Body hath occaſion for, ſhe won't fail of rejecting them by Vomit: this Matter may at any time be ſafely experimented by an over-large draught of *Vinegar*, in any Caſe where the Body hath no need of it, or at leaſt in ſo great a quantity at a time; for which reaſon I tell you that the Blood cannot ſuperabound with *Acids*, as it's plain in fact it doth not, neither in a *Morbid* nor *Healthy State*, becauſe the Stomach will not receive or retain more than it hath occaſion for; but altho it cannot overdo, yet it is very frequently defective in conveying a ſufficient quantity into it, either

ther through its own fault, or the fault of the Phyſician who forbids the uſe of them, and ſo the whole Body ſuffers damage. How greedily will the poor Stomach embrace the Juice of an *Orange*, or the like, in a *Fever*? and how ſcornfully will ſhe reject and abhor any thing of a contrary nature? nay the uſefulneſs of *Acids* is ſo evident and extenſive, that it is almoſt a ſhame they ſhould now want a Champion, after there has, for ſo many years together, been ſo great a noiſe made about *Experimental Philoſophy*, and even publick Societies, in many Nations, erected on purpoſe to cultivate it. But to return from whence we left off; I am apt to believe that if you take the following advice, you will ſcarce be guilty of an Error in the giving of manifeſt *Acids*, *viz.* always give them in ſuch quantities as the Stomach will re-

receive them with pleaſure and delight, and never refuſe them when the Stomach earneſtly craves them; this is the method I obſerve at preſent, and believe I ſhall never have occaſion to recede from. I confeſs it may be lawful ſometimes in very extraordinary caſes to ſtrain a point beyond what Nature craves, but herein if the thing ſhould chance to be overdone, all the damage that can enſue is occaſioning a puke or two; this you may take from my conſtant experience, and believe me I would not willingly impoſe upon you and the World: But in general, it is always neceſſary for us Phyſicians, who are, or at leaſt ſhould be, only Natures Servants, ſtrictly to obſerve her Neceſſities, and not to outrun her Dictates.

Without making the leaſt Experiment to convince me of being in an error, you go on to range *Saſ-*

ſafras

ſafras amongſt the number of *Alkalies*; but when, from Experience, I do aſſure you that *Saſſafras* is an *inveloped Acid*, I think you ought not to trouble me and the World with conjectures; and were it not that I value and reſpect you, I would not ſo much as take the leaſt notice of your Conjectures. As for the remaining part of this Paragraph, I think I have no occaſion to take notice of it, I having ſufficiently anſwered every thing that looks like an Objection in it in my former Remarks; and therefore ſhall, in your own words, conclude, that if I have any where expreſt my ſelf indecently, I hope you won't attribute it to rudeneſs or diſreſpect: for I do aſſure you, I think you a Bleſſing to the Country wherein you live, and don't doubt but that I ſhall ſee you an Honour to our Profeſſion.

I ſhould have concluded, but that you alſo begin again; and that I may not be unmannerly, I ſhall for once keep you company to the end of your Journy; but do not deſign any more to trouble the World with Diſputes, but if any thing more of that Nature offers it ſelf, worth my taking notice of, it ſhall be included in ſome Practical Diſcourſe. And ſo paſs we on to your Reflections upon the Firſt Part of my *Eſſay* of *Alkaly* and *Acid*. And firſt,

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OF

OF THE

Small Pox.

WHAT I think worthy of taking notice of at preſent in your Reflections upon this Matter is this, That you honeſtly and fairly allow the giving of *Acids* in a *Flux Pox*, the only *dangerous one*, and from which our Patients are in moſt danger: but in *Benign Poxes* you commend me for doing nothing, and indeed I ſhall always continue ſo to do where my Patients have no occaſion for Medicines. I am a Friend to *Rad. Serpentariæ Virg.* as well as you, in all thoſe Caſes where there is an occaſion for *Cardiacks*; that and *Saffron* being as Noble Cordials, as perhaps, are at all known,

known; yet they must never be given but with due caution and circumspection. But I am a professed and declared Enemy to *Pul. e Chelis*, and all things of that kind. And once again I do assure you, that *Rad. Serpentar.* upon distillation will appear to be a *sulphureous Acid*; and in Cases where the *Pox* doth not come out kindly, and the Pulse is low, an infusion of that Root in *Vinegar*, or some such thing, will do very good feats. I confess the *Testaceous Powders* in *Benign Poxes*, are frequently given without any evil consequence; but the reason is, that the Patients are generally in so good a condition, and have so much strength of Nature to support them, that it is almost impossible to kill them; but what fatal work they make in *Flux Poxes*, or any other of a malignant kind, is but too frequently seen. Here observe the dif-

ference between your Method and mine, even by your own confeſſion. Mine is principally ſerviceable in dangerous Caſes, Yours in thoſe wherein there is no danger. Granting this, you may ſtill keep your own Method to your ſelf, and I will ſtick to that which will ſtand me in ſtead in hazardous Caſes, and even only ſtand by and look on in thoſe where my Patient has no occaſion for my help. You at laſt blame me for giving *Syrupus e Meconio* in the beginning of the *Small Pox*; but ſurely you are overhaſty in blaming me upon that ſcore, for of all men in the World I deſerve leaſt to be blamed for tampering too much with *Opiats*. If you remember, the occaſion of my preſcribing *Diacodium* in the beginning of the *Small Pox*, was this, *viz.* If the Patients Stomach be overcharged or clogged with viſcous Matter, I then

pre-

prescribe an easie Vomit; and after the operation of the Vomit is over, to allay the hurry and disorder occasioned by it, I prescribe a little *Diacodium*, but never prosecute it afterwards, as some people fatally do. I have not time, else I would remark upon you Line by Line; but having taken notice of what is material, I shall let fall the rest, and leave you and your Friends to make the best of it. But cannot forbear to assure you, that two or three of my greatest Enemies in this Town, have of late prescribed *Acids* plentifully to their Patients in the *Small Pox*, and yet at the same time have railed at me for so doing: whether this be like Gentlemen, I leave the World to judg.

OF THE

Scurvy.

IN this Matter you perfectly agree with me in my Practice, only you would bring in the *Bitter Herbs* as great assistants in the cure of this Distemper, and these Herbs you will have to be *Alkalies*. As for *Bitters* I greatly approve of them in their proper places. But having before put you in a way to be satisfied that they are not *Alkalies* but *Acids*, I shall not here trouble my self nor you any more upon that Matter: Nay if we can but once agree in the main Point of curing Diseases by any particular sort of Medicine or Medicines, tho you account it an *Alkaly* and I an *Acid*, we ought not to

to fall out about that matter, but give God thanks that we are able to perform the Work we pretend to. Yet at the ſame time I think a Phyſician ought as much as he is able, to know the true reaſon why a Medicine performs ſuch and ſuch Operations. And I muſt confeſs I ſhall be very unwilling, upon any occaſion, to preſcribe a Medicine, the manner of whoſe operation I am not able to account for. As for what you ſay concerning the *Scurvy* that attends the People in the North Part of *Devonſhire*, I think I have ſufficiently accounted for that matter already; and I doubt not but impartial Readers, who will give themſelves the trouble of peruſing my ſeveral Tracts, will acknowledg it.

OF

Rheumatiſms,

WELL met my good Friend! I muſt confeſs you have almoſt come to an agreement with me in ſeveral things before, yet here you ſay your Practice and mine are the ſame, but don't mention how long you have uſed this Method in the cure of this Diſtemper. However I can't preſume you had it from me, but that it was your own Judgment that led you to it. I hope, for the good of the Country where you live, that in a little time we ſhall agree in more things than the cure of *Rheumatiſms* only. However I would have you remember, that in another place you blame

Acids

Acids as the cauſe of Pain, and yet here you profeſſedly uſe them in the cure of a Diſtemper, the principal Symptom that attends which, is exquiſit Pain.

OF

Conſumptions.

A *Conſumption* is a Diſtemper, the progreſs of which in this our Iſland, I have oftentimes heartily bewailed. It is likewiſe a Diſtemper that moſt of my Predeceſſors (as I have before obſerved) have died of, even in the Prime of their Ages; and is alſo what I have more cauſe to be afraid of than any thing elſe beſides; upon which ſcore I have ſpent a great many days and nights in the conſideration of the Nature and Cauſe of

this *Fatal Diſtemper*, which deprived me of the beſt of Fathers, whilſt I was but a Child, and has alſo robbed me of ſome other of my beſt Friends. Now the reaſon why I have not hitherto ſpoken ſo much about it, as of other Diſtempers, is, becauſe I have been ſome years in collecting Obſervations in order to the writing a particular Tract of *Conſumptions*, and was unwilling to anticipate what I had to ſay upon ſo weighty a Subject, tho I was able to ſay as much concerning that Matter, as of any Diſeaſe about which I have treated. Nay, I am apt to believe, that I may without Vanity ſay, that I have cured more true *Conſumptions* in the ſpace of one Year laſt paſt, than any one Phyſician in *England* has done, and that by the means of *Acids* of one ſort or other, *viz.* either Manifeſt or Inveloped ones; an ample account of which,

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as ſoon as my buſineſs will permit, I deſign to make publick. But however I ſhall ſpend a little time in remarking upon what you have ſaid. You allow *Acids* to be proper and beneficial in thoſe *Conſumptions* not attended with a *Catarrh*, which is a conceſſion which very few Phyſicians beſides will give their aſſent to; or at leaſt if they will, they are but very lately come over. But conſidering that the main thing you harp upon, is, that manifeſt *Acids* are not proper to be uſed in *Catarrhs*; I ſhall a little take that thing into my conſideration. Now although a *Catarrh* will cauſe a *Conſumption*, or waſting of the Parts of the Body, yet a *Catarrh* is not what we in *England* commonly call a *Conſumption*; the Diſtemper called *Tabes Anglicana*, or the *Engliſh Conſumption*, proceeding from an *ulceration* of the *Lungs*: and in theſe caſes for the moſt part we

have

have no *Catarrh*, though ſometimes it doth attend them; but one of the principal Symptoms of this Diſtemper is the diſcharge of a great quantity of tough, yellow and greeniſh *Pus*, in which caſes you allow *Acids* to be proper: nay although there be a *Catarrh* attending them, yet it is not from that that we make our fatal Prognoſticks, but from the good or evil nature and quantities of the aforeſaid *Pus*, with ſome other Symptoms not neceſſary here to enumerate. Nay it is not uncommon for our Conſumptive People to bring up from their Lungs by Coughing, as perfect *Chalk Stones* as ever were found in the joints of Perſons ſeverely handled with the *Gout*; which Chalk I am ſure was never the Daughter of an *Acid*. But however not to inſiſt any longer upon this matter at this time, it not being the proper

per place for it, I ſhall return to the buſineſs of *Catarrhs*. I have before taken notice, and as you your ſelf here own, that the *Saliva* is a noble *Acid*, and conveyed to the Mouth for a moſt noble purpoſe, *viz.* to be mixed with the Food in chewing, and afterwards in the Stomach, to turn it into a ſubſtance fit for the nutrition of our Bodies. Now if on any occaſion the *Glands* of the *Pharynx*, and other *Glands* about the Mouth are over-relaxed, that they cannot retain the *Lympha* in their proper receptacles, but let it fall continually from them, being what we call a *Catarrh*, or defluxion, this, muſt inevitably cauſe a tickling Cough, not becauſe it is an *Acid*, for even a defluxion of the moſt ſimple Water would produce the ſame effect; but the Body being continually robbed of this moſt noble Juice, cannot fail of being waſted and decayed by it.

And

And that the cauſe of a ſimple *Catarrh* doth proceed from a relaxation of the texture of the *Glands* only, and not from the *Lympha* contained in, and continually brought to them being over-acid, the following eaſy Cure is ſufficient to demonſtrate, *viz.* Let ſome *Maſtick* and *Olybanum* be made into *impalpable powder*, and with a long Quill or a hollow Inſtrument made on purpoſe, let it be blown upon the *Larinx* at night going to Bed; the continuance of which for ſome Nights together will frequently do wonders in the cure of *Catarrhs*. I confeſs this was none of my own contrivance, but was communicated to me by my worthy Friend Dr. *Jones*, who is a man of the moſt happy invention that ever I met with. Now the only deſign in the uſing of this Pouder is, that being immediately conveyed to the Parts affected, it

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ſhould cauſe them to contract themſelves, or regain their *Tone*, and of conſequence the *Catarrh* will ceaſe. This is not all that I have to ſay concerning *Catarrhs*, but I think is as much as is neceſſary at this time. You tell a famous Story of a Perſon that had a *Catarrh* brought upon him by the over-plentiful uſe of *Sevil* Oranges; but are ſo deficient in relating ſeveral circumſtances that are neceſſary to be known upon ſuch an occaſion, that if I have not already ſaid enough to ſolve this difficulty, I ſhall leave you to make your beſt advantage of it; for I am ſo tired that I can go no further. And I do aſſure you it ſhall be the laſt Controverſial Diſcourſe that ever I will write; for if ever I meet with any Objections againſt my *Hypotheſis* worth taking notice of, I ſhall make it my buſineſs to clear my ſelf from them as well as I can, in thoſe Practi-

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cal Diſcourſes that I deſign (God willing) hereafter to publiſh. I confeſs I am over head and ears in debt to the Publick, having promiſed ſeveral things which many have expected ſhould have come abroad long before this time, and indeed I deſigned they ſhould; but ſeveral unexpected Accidents have intervened, which have put me by, and hindred me in my undertakings, yet in due time I will endeavour to fulfil what I have promiſed. I ſhall conclude with aſſuring you, that I am now ſo abſolutely confirmed in the truth of my *Hypotheſis*, that I am ſure it is not in the power of any one to overthrow it; tho at the ſame time I muſt own that I may have been deficient in ſome circumſtances relating to the explication of it; but time and further obſervation, I hope, will clear all thoſe things. Thus wiſhing you to

weigh

weigh all things in the Balance of Reaſon and Experience, before you paſs a Cenſure, is all at preſent from

Your real Well-wiſher,

Villars-ſtreet York-Buildings, May 12. 1698.

Jo. Colbatch.

POST-

POSTSCRIPT.

DR. *Coward* took an occasion to make some wonderful Reflections upon me and my *Hypothesis*, in order to recommend a Medicine of his own invention to the World. This Medicine, which he calls *Tinctura Sanitatis*, is as Noble in its Nature, as the Author is Generous and Great in his Temper. I can assure the World it is nothing else but the most ridiculous kind of *Sal Volatile Oleosum* that ever I saw; and were it not that I am unwilling to expose a Member of the *College*, I would print the Receipt, which was communicated to me by one that has been imployed by him to prepare it. The Doctor cannot but own that I am more generous to him than he has been to me;

me, in that I have not publiſhed the Story relating to Mr. *Bat* and Mr. *Lord* alſo. But ſuch poor Enemies as him and *Lee*, are rather to be pitied than any thing elſe. However, *Sal volatile Oleoſum*, being a Medicine in great vogue with almoſt all other Phyſicians, I ſhall preſume to make ſome few reflections upon the main ingredient in it, which is the *Volatile Spirit*, or *Salt* of *Sal Armoniack*. Now every body knows that the *Volatile Spirit*, or ſalt of *Sal Armoniack*, are little elſe but the *Volatile Spirit* or *Salt* of *Urin*, which at beſt is no more than an Excrement of our Bodies. But however, there is ſomething more that deſerves our taking notice of, in order to deter us from the uſe of this Medicine, which is now ſo much in faſhion, to the no ſmall detriment of many. The *Salt Armoniack*, from which the *Volatile Spirit* or *Salt* is extracted, is a Compoſition of *Urine*,

Soot and *Sea-Salt*; and by the addition of a *fixt Alkalizate Salt* or *Quick-lime* (which is the usual method in making *Spirit* and *Salt* of *Sal Armoniack*) the *Acid* of the *Sea-Salt* is so intangled, that it readily lets go from it the *Volatile Spirit* or *Salt* of the *Urine* and *Soot*; but that of the *Soot* is very inconsiderable in quantity to that of the *Urine*. Now the *Urine* made use of for the aforesaid purpose, is generally procured from publick Houses, which is a jumble of all together, *viz.* of People labouring under all kinds of Habitual Diseases, as *Pox*, *Gout*, *Scurvy*, *Scrubbado*, &c. Now there is scarce a Disease attending Man's Body, but some of the Morbifick Particles are imparted to the *Urine*; and if the *Urine* in general partake of them, the Spirit and Salt must do so in a more eminent degree; so that, I think, a necessary consequence of giving such a Medi-

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cine muſt be the ſowing the Seeds of Diſeaſes in Mens Bodies. And I believe in my Conſcience that one great reaſon of the late frequency of ſome Tyrannical Diſeaſes, more than heretofore was wont to be, has proceeded from the exorbitant uſe of Spirit and Salt of *Sal Armoniack*, and thoſe other things of which they are prime ingredients. Now I deſire that our Ladies, who are ſubject to Hiſterical Diſtempers, would well conſider this matter, becauſe they are generally armed with it, to fright away that Diſtemper, of which I am afraid it is in great meaſure, if not altogether the cauſe, or at leaſt of the ſaline Particles of the ſame kind with which their Blood abounds. I ſhall ſay no more at this time, but hope this further Hint, to deter people from the uſe of *Volatile Alkalious Spirits* and *Salts*, of which the Spirit and Salt of *Sal Armoniack* are moſt com-

common, may not be unſerviceable.

I have made uſe of the words Spirit and Salt of *Sal Armoniack*, as of things ſomewhat different, tho indeed there is no real difference between them; that which is called Spirit, being only a proportion of the Salt diluted in a proper quantity of Phlegm: this is well known to Phyſicians, but it is very probable that other Perſons into whoſe hands theſe Papers may chance to fall, might have laboured under ſome difficulty about it, without this Intimation.

FINIS.